

EFFECT OF SKILL BASED EXERCISES WITH HIGH INTENSITY INTERMITTENT EXERCISES ON SELECTED PERFORMANCE RELATED VARIABLES OF HANDBALL PLAYERS

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ABSTRACT

The present study was conducted to assess the effect of skill based exercises with high intensity intermittent exercises on selected performance related variables of handball players. Forty (N=40) handball players (age range 18-25) were selected at randomly and divided into two groups (n=20) of experimental and control group. The skill based exercises with high intensity intermittent exercises training group were subjected to specific self-structured training programme for twelve weeks (3 session per week, 60 minutes per session), while the control group did not any special training, they are participated in regular handball training only. The dependent variables were passing, shooting and overall playing ability were examined before and after twelve weeks of skill based exercises with high intensity intermittent exercises in both groups. In order to find out the effect of skill based exercises with high intensity intermittent exercises on selected performance related variables among handball players, the descriptive statistics, paired sample 't' test and Analysis of Covariance (ANCOVA) was used to find out the significant differences. In all the cases 0.05 levels of significance were fixed. The results of the study showed that there was significant improvement on selected performance related variables namely, passing, shooting and overall playing ability of handball players.

Key Words: High Intensity Intermittent Exercises

1. INTRODUCTION

Handball is a team sport in which two teams of seven players, each player pass a ball to throw in to the goal of the other team. It is all about high speed and precise, quick passing and one of the higher octane sports at the Olympics. The key to success lies in players working together at high speed to move the ball up the court and they do so much quicker. In this study, the skills passing, shooting and overall playing ability were used.

It is basic skills necessary for playing the game and all other complex Skills are the product of speed, accuracy, form and adaptability and combination of these basic skills. The

mastery of the fundamental skill is very essential in improving the standard of the game. The fundamental skills are catching and passing, dribbling, faking, feinting, shooting, and goalkeeping.

Most exercise protocols designed to induce fat loss have focused on regular steady state exercise such as walking and jogging at a moderate intensity. Disappointingly, these kinds of protocols have led to negligible weight loss. Thus, exercise protocols that can be carried out by overweight, inactive individuals that more effectively reduce body fat are required. Accumulating evidence suggests that high-intensity intermittent exercise (HIIE) has the potential to be an economical and effective exercise protocol for reducing fat of overweight individuals (Babraj 2009).

Passing and catching are most important components of ball control. Inability to control the ball result in loss of possession and increased scoring opportunities for opponents. Offensive success resolves around a team's ability to move the ball quickly and accurately from one player to another. When in possession of the ball in each individual responsibility is to attack the goal with the intense to score. If the scoring opportunity is not clear, everyone must keep the rhythm of the attack going by passing the ball to teammate. Consistent, accurate passing ensures the pace and continuity of team play and keep pressure on the defence by allowing each attacker the opportunity to be scoring threat (Clanton, 2015).

Shooting are one of the most important elements of handball. While shooting the muscles of the lower and upper limbs, pelvic region and trunk are extremely engaged. One can assume that shooting is performed similarly to passing, but with a stronger action of the trunk and upper limbs. The shot power is conditioned by the distance and hand action time on a ball. The greater the distance that the hand on the ball covers in the time unit the stronger the shot will be (a ball reaches a higher velocity) performed (Saroaha, 2013).

The basic skills of handball is passing, receiving, shooting, dribbling and feinting. Research and experience have already proved that the handball skills and overall playing ability during competition and practice session goes by the result of proper handball skill based training and preparation. There are still lack of in researches that to which extent the use of proper handball drills with high intensity intermittent exercises will improve the skills and playing ability. Hence the investigator selected the performance related variables namely passing, shooting and overall playing ability for this study.

1.1 Statement of the Problem

The purpose of the study was to find out the “effect of skill based exercises with high intensity intermittent training on selected performance related variables of handball players”.

1.2 Objectives of the Study

1. To assess the effect skill based exercises with high intensity intermittent training on selected performance related variables of handball players.
2. To find out the differences between experimental and control group on selected performance related variables of handball players
3. To compare the experimental and control group on selected performance related variables of handball players.

2. MATERIALS AND METHODS

The forty (N=40) college level handball players were randomly selected for the study. The selected subjects were randomly divided in to two groups and assigned into skill based exercises with high intensity intermittent training group and control group. Each group consisted of twenty (n=20) subjects. The subjects where tested on selected performance related variables such as passing, shooting and overall playing ability before and after the training period. The experimental group underwent skill based exercises with high intensity intermittent exercises for a period of twelve weeks. Before and after the completion of experimental period, all the subjects were measured of the criterion variables. The difference between the initial and the final means on criterion variables were considered as the effect of treatment among the subjects.

2.1 Training Intervention

The Experimental group underwent skill based exercises with high intensity intermittent exercises thrice in a week on Tuesdays, Thursdays and Saturdays for a periods of twelve weeks. The training programme consisted of warm up and stretching for 10 minutes, selected skill based exercises with high intensity exercises for 35 minutes and 15 minutes of warm down. The initial intensity of the skill based exercises was fixed at 60-65%. The intensity of the skill based exercises was gradually increased, once in every four weeks. The intensity was fixed between 65%, 70% during 5th week and 75% during 9th weeks. On the basis of pilot study, the initial intensity of the high intensity intermittent exercise was fixed to 75-80%. The intensity of the exercise was gradually increased, once in every four weeks. The intensity was fixed between 80% and 85% during 5th weeks, 85 and 90% during 9th weeks.

2.2 Statistical Techniques

In order to find out the effect of skill based exercises with high intensity intermittent exercises on selected performance related variables among handball players, the descriptive statistics, paired sample 't' test and ANCOVA was used to find out the significant differences if any. In all the cases, the level of significance was fixed at 0.05 level.

3. RESULTS AND DISCUSSION

Table 1: Descriptive Statistics and Paired 't' Value on selected Performance Related Variables of Experimental Group

SI No	Variables	Pre test	Post test	't' value	Sig.
1	Passing	15.00	18.00	6.88*	0.00
2	Shooting	18.00	21.75	7.32*	0.00
3	Overall Playing Ability	34.45	41.15	9.13*	0.00

Table 1 shows that, the descriptive statistics and 't' value of the experimental group. The pre-test means of the passing, shooting and overall playing ability were 15.00, 18.00 and 34.45 respectively. The post-test means of the passing shooting and overall playing ability were 18.00, 21.75 and 41.15 respectively. The 't' value of selected performance related variables was significantly greater than the required table value 2.09 with df 19. It was shows that there was significant difference between pre and post-test scored of experimental group

Table 2: Descriptive Statistics and Paired 't' Value on Selected Performance Related Variables of Control Group

SI No	Variables	Pre test	Post test	't' value	Sig.
1	Passing	14.90	15.10	1.71	0.104
2	Shooting	17.95	18.00	1.91	0.124
3	Overall Playing Ability	34.65	34.72	1.82	0.101

Table 2 shows that, the descriptive statistics and 't' value of the control group. The pre-test means of the passing shooting and overall playing ability were 14.90, 17.95 and 34.65 respectively. The post-test means of the passing shooting and overall playing ability were 15.10, 18.00 and 34.72 respectively. The 't' value of selected performance related variables was significantly lesser than the required table value 2.09 with df 19. It was shows that there was no significant difference between pre and post-test scored of control group

Table 3: Analysis of Covariance on Performance Related Variables of Experimental and Control Group

Variables	EXP	CG	F ratio	Sig.	95%confidence Interval for Difference	
					LB	UP
Passing	17.95	15.14	17.58*	0.00	2.37	3.24
Shooting	21.72	18.17	12.00*	0.00	3.17	3.92
Overall Playing Ability	41.21	34.27	16.12*	0.00	5.67	7.27

As seen from table 3, the obtained 'f' ratio on passing, shooting and overall playing ability were significantly greater than the required tablevalue of 4.09, it was found to be statistically significant at 0.05 level of confidence.

3.1 Discussion on findings

The study was conducted to find out the effect of skill based exercises with high intensity intermittent exercises on selected performance related variables of handball players.

The skill based exercises with high intensity intermittent exercises improved accurate passing, ensured the pace and continuously of team play and kept pressure on defence by allowing each attacker to the opportunity to be scoring threat. (Clanton, 2015).The findings of present study were in agreement with the findings of Hermassi et al (2017) who identified Short term effects of combined high intensity strength and sprint interval training on improved performance of the handball players significantly.

The skill based exercises with high intensity intermittent exercises improved ability of successful shooting and overall playing. This could be due to the muscles of lower and upper limbs, pelvic region and trunk while extremely engaged in the skill based exercises high intensity intermittent exercises with a stronger action of the trunk and upper limbs(Janusz, 1997).The findings of present study were in agreement with the findings of Hermassi et al, (2011), who identified effects of eight week in season upper and lower limb heavy resistance training on improve peak power, throwing velocity, and sprint performance among handball players significantly. The findings of the study proved that there was significant improvement in playing ability, is in the agreement with the previous findings of Luteberget et al (2017).

4. CONCLUSIONS

1. It may be concluded that, effect of skill based exercises with high intensity intermittent exercises would increase the performance of handball players.
2. The control group did not show any significant changes on selected performance related variables of handball players.
3. The result of the study proved that there was significant differences between experimental and control group on selected performance related variables of handball players after the twelve weeks of training programme.

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